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Effects of pre-mortem stress on heat shock protein expression and oxidation relative to meat quality

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Expected Data Type

This project will generate data relative to cattle stress, blood metabolites, protein expression, oxidative capacity, and myofibrillar degradation rates. All of the data collected in this project will be primary data. The cattle stress data will be collected in the field, while the blood metabolite analysis, protein expression, oxidative capacity, and Myofibrillar degradation rate data will be collected in a laboratory setting.

Data Format

The data collected from the experiments outlined in this proposal will be in the following formats:

- ***Cattle stress data:*** This data will include body temperature, complete blood counts and serum cortisol during the stress challenge. This data will be stored in an excel file.
- ***Protein expression:*** Protein expression data will be collected from all 40 animals at 3 different time points. This data will analyze expression of three different small heat shock proteins, an oxidative stress protein, and two Myofibrillar proteins. This data will be stored in an excel file.
- ***Oxidative capacity:*** Oxidative processes within samples will be measured by analyzing total lipid oxidation, antioxidant capacity, and a biomarker for oxidation. All of this data will be compiled and stored in an excel file.
- ***Myofibrillar degradation rate:*** Myofibrillar fragmentation index will be collected in a laboratory setting and stored in an excel file.

Data Storage and Preservation

All data collected will be stored and managed on the Utah State University “Box” system. Furthermore, all research data obtained will also be stored on several different hard drives/servers in the labs of the individuals responsible for collecting that particular piece of data. All of the data generated in this project will be stored long-term on Box. Upon publication, some data files pertinent to the analysis and/or interpretation of the research manuscript may be too large to fit in the paper itself. In such cases, these data files may be made available for viewing and/or download via a permanent institutional server with web access.

Data Sharing and Public Access

Generally speaking, the data we anticipate generating will be of the sort that we will *want it* to be immediately accessible to the producers, at least. So we do not expect any extraordinary restrictions on data access. At the same time, we will want/need to formally present and publish our research findings, and so it will be important to keep the actual data to ourselves until then. We pledge to get our data to presentation/publication in a reasonable amount of time: we anticipate having all data presented/published within two years of the project end date. After that time, data will be released to the public.

Roles and Responsibilities

The PD will be responsible for both coordinating and ensuring that all data generated in this project is properly stored, backed-up and shared.